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E2A APE A420 A421

E1J JFG

(56) Documents cited

GB 2258262 A

GB 2201994 A

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(58) Field of search

UK CL (Edition L) E1J JFG, E2A APE

INT CL⁵ E05B 17/00 17/20

(54) **Security device for doors and windows**

(57) A security device comprises a first C-shaped plate (2) providing reinforcement to an opening member such as a door or window in the proximity of a locking means, and a second plate (10) for providing reinforcement to the frame or jamb surrounding the door or window. The security device may also include protected chain bars for supporting a chain between the opening member and its surround. The jamb plate may be flat, or C-shaped so as to surround the shape of the jamb.

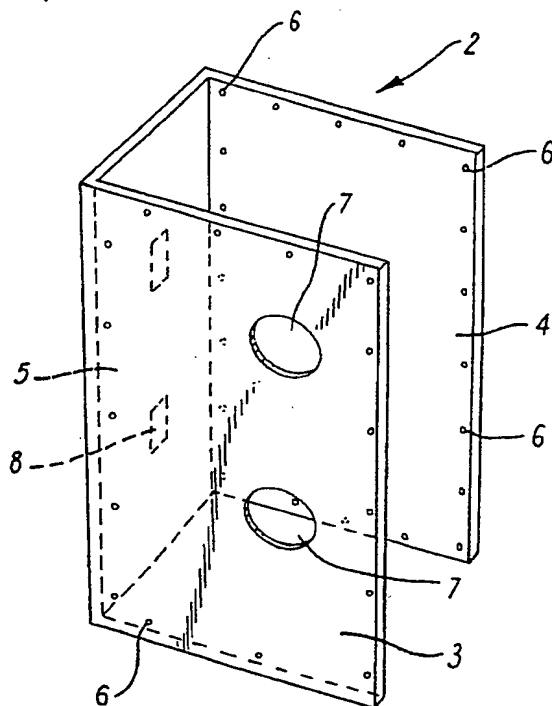


Fig. 1

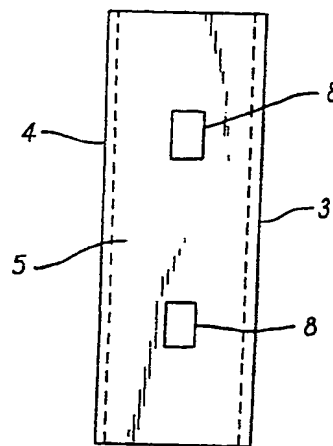


Fig. 2

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1990.

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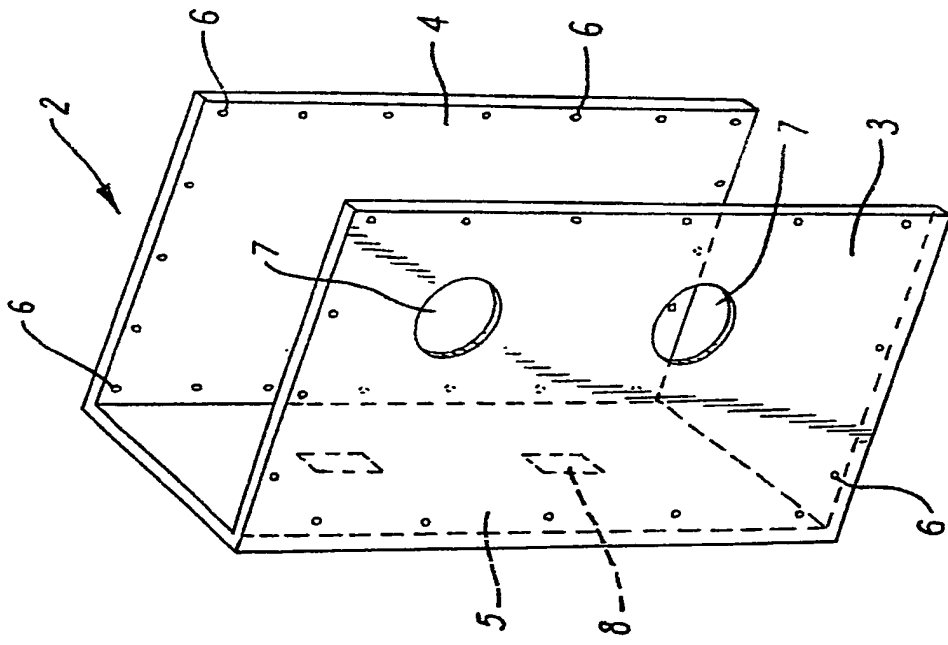


Fig. 1

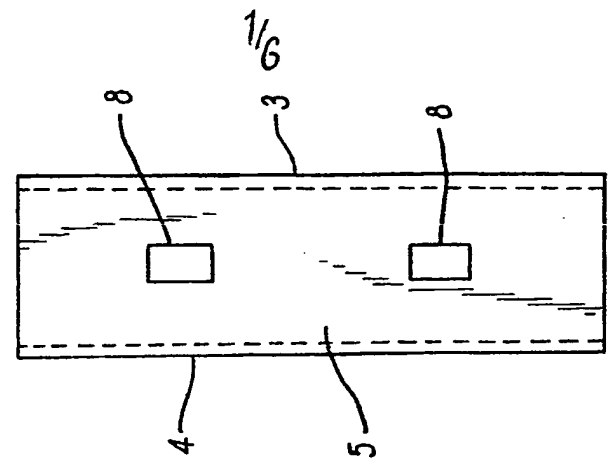


Fig. 2

1 8 0 0

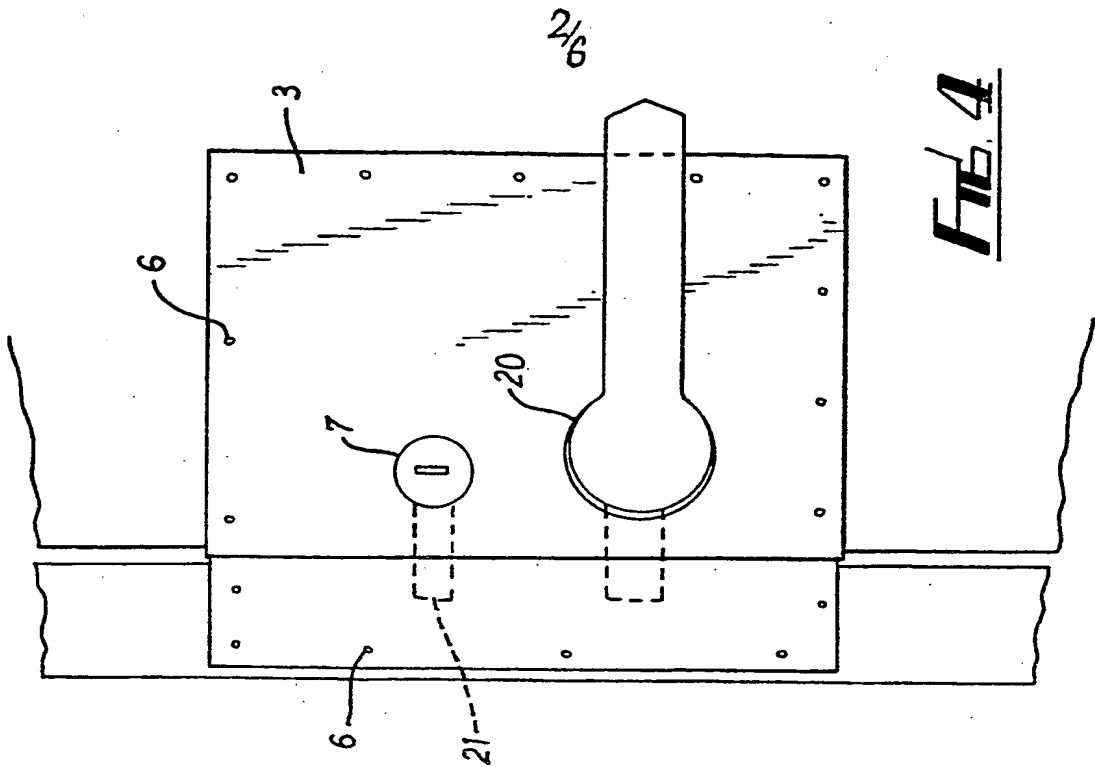


Fig. 4

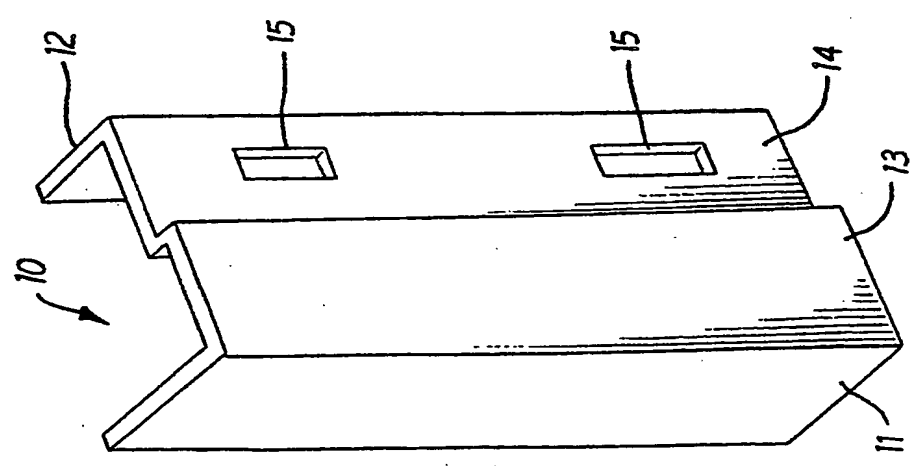


Fig. 3

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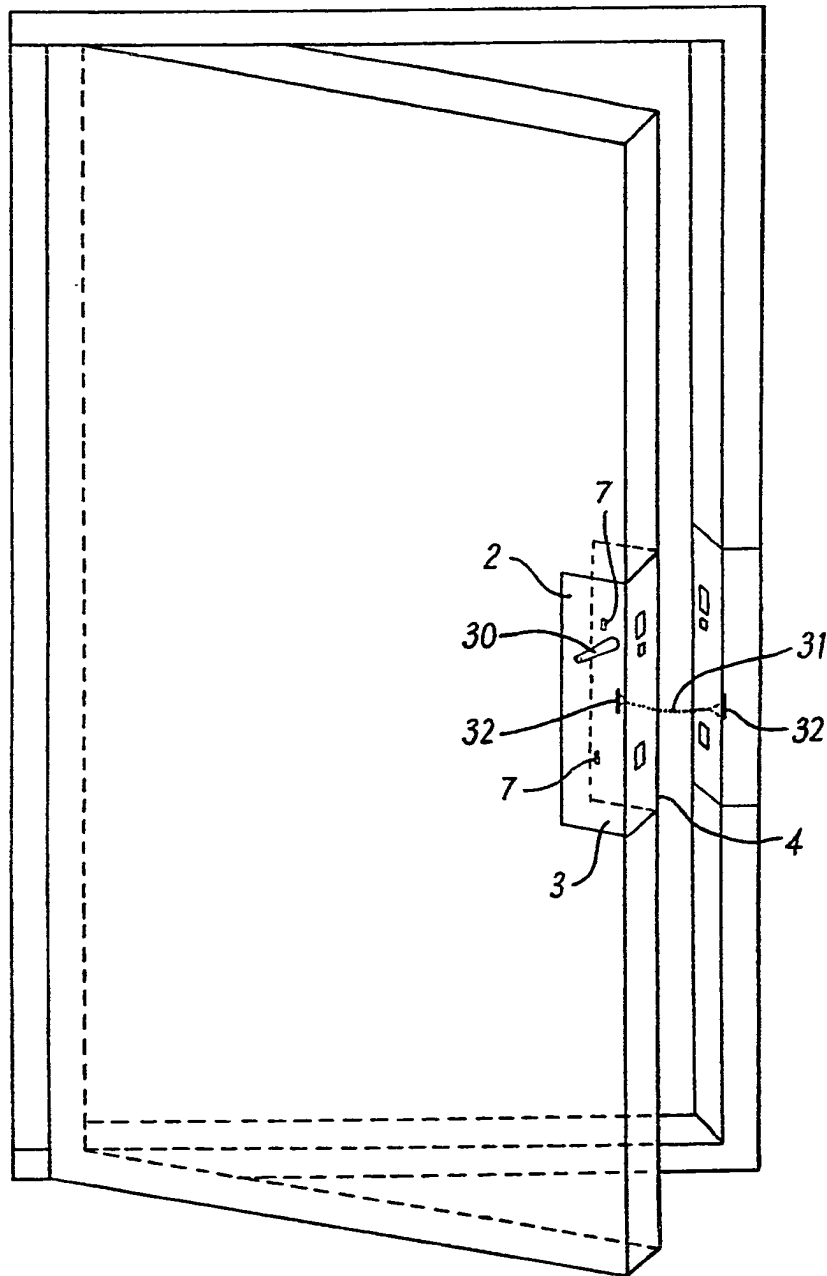


FIG. 5

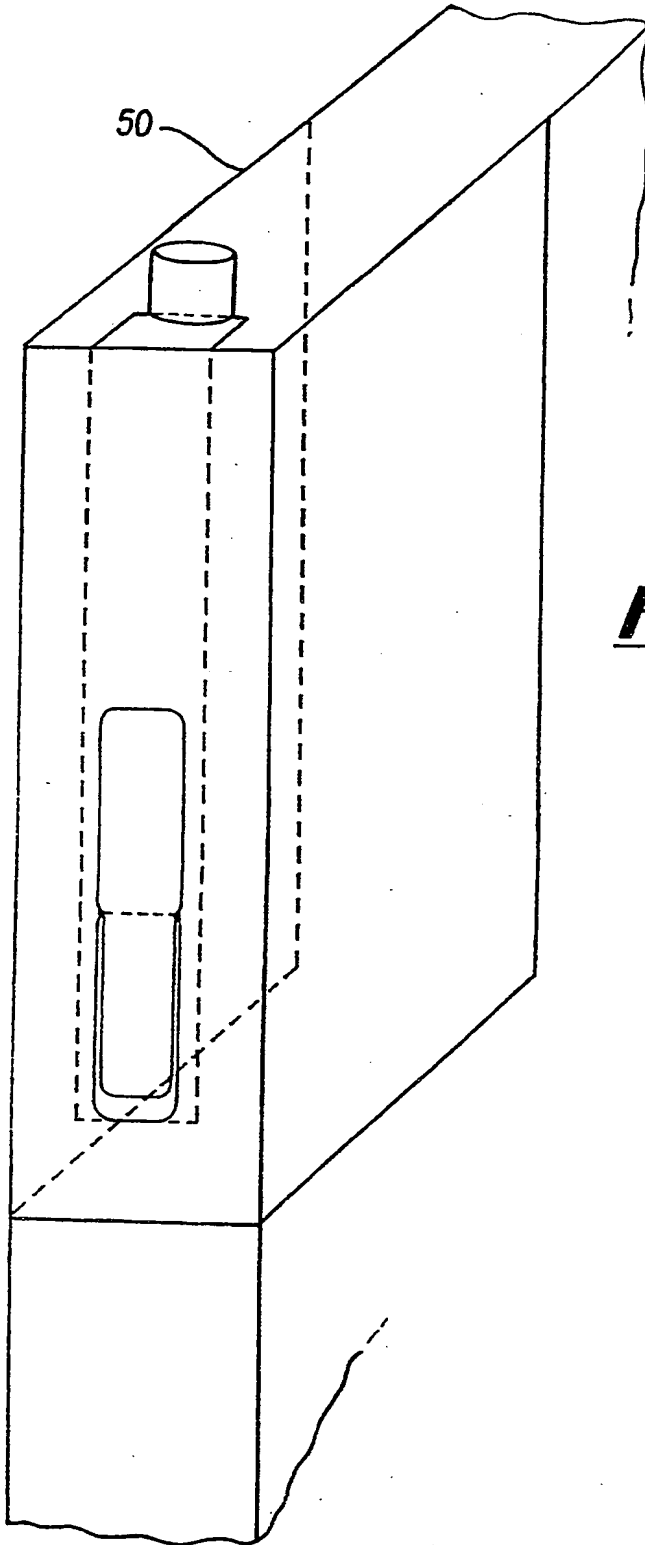


Fig. 6

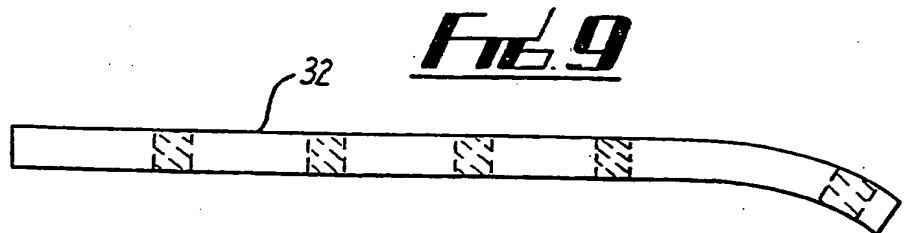


Fig. 9

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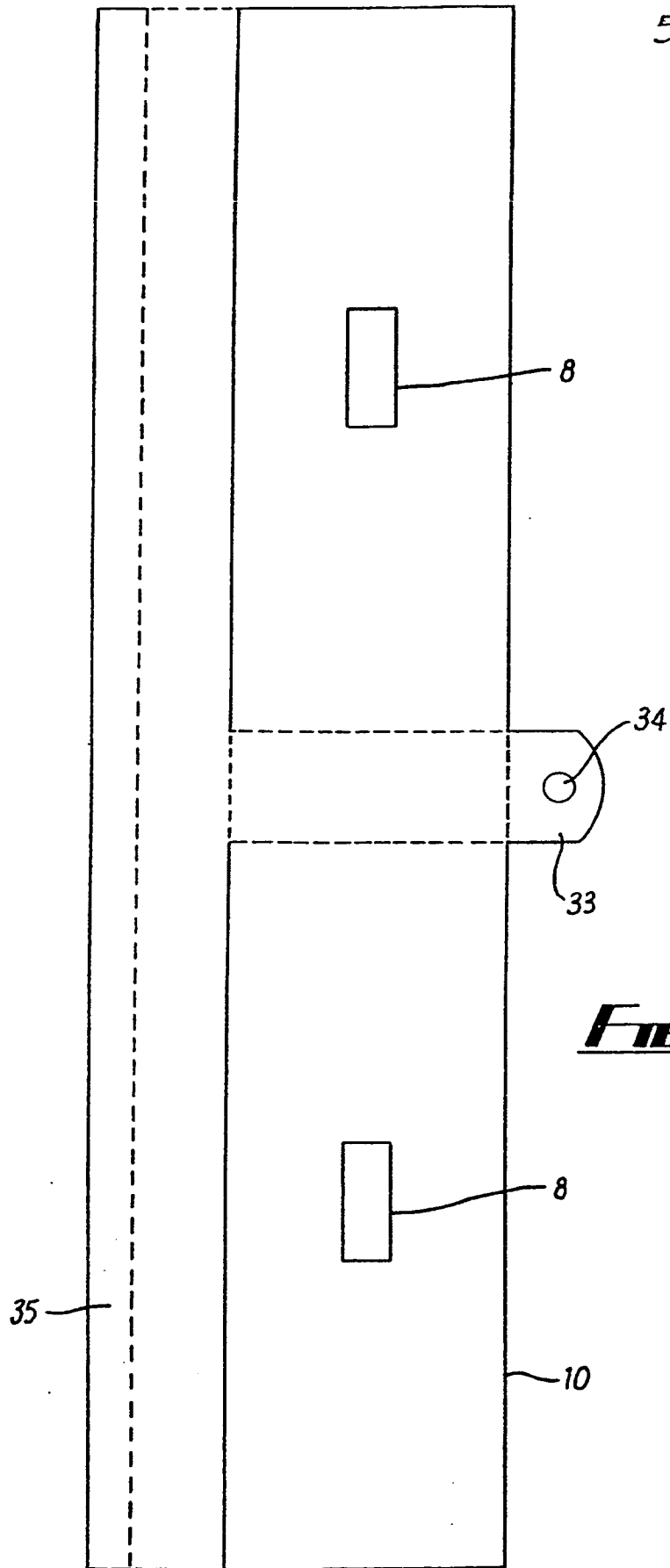


Fig. 1

Fig. 8a

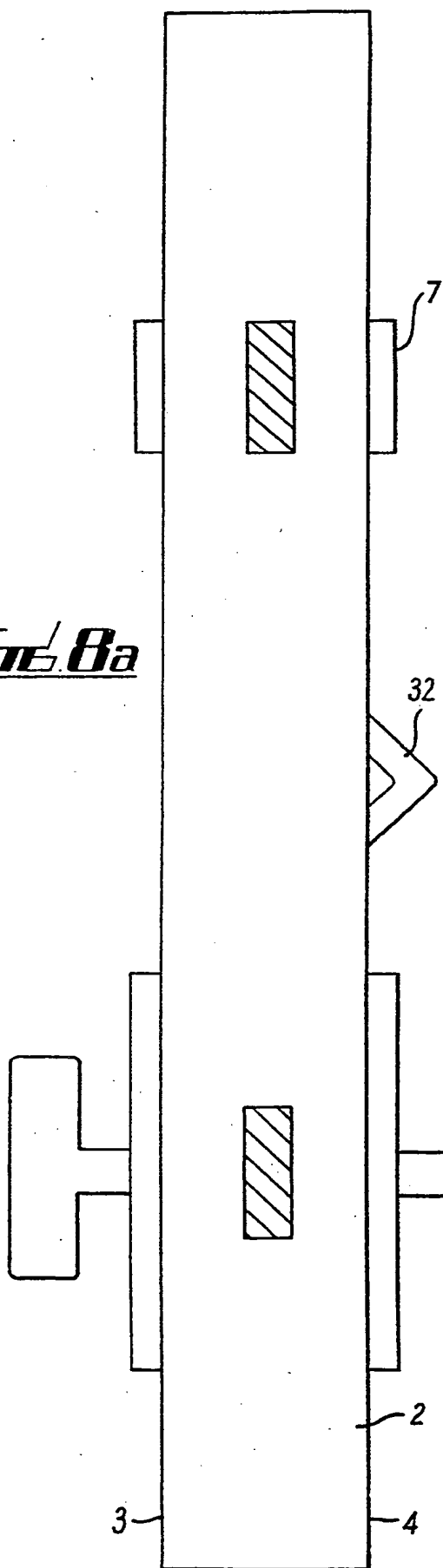
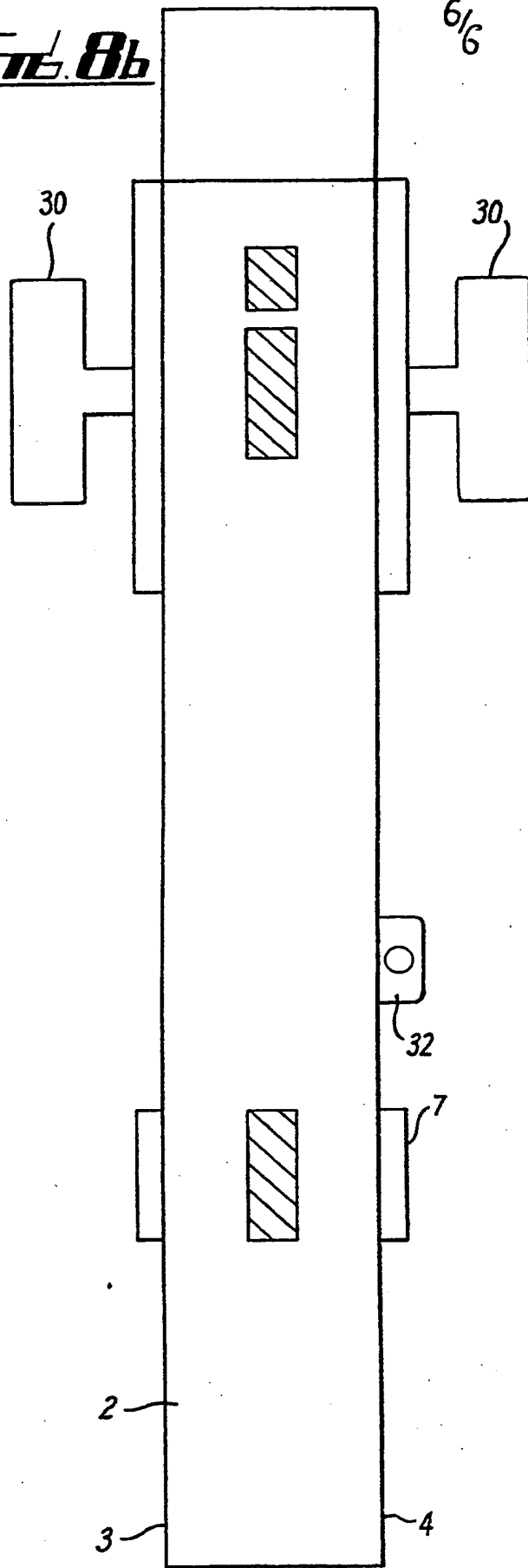


Fig. 8b

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1

2 "SECURITY DEVICE"

3

4 This invention is in the field of security devices and
5 particularly relates to a means of strengthening or
6 providing reinforcement to locks located in doors or
7 windows or the like.

8

9 A common method of providing locking means in a door or
10 window or the like, hereinafter referred to as opening
11 members, is to cause a metal bar housed within an
12 opening member to protrude into a receiving aperture
13 located within the frame or door jam or the like
14 surrounding said opening member such as to prevent the
15 opening member from movement.

16

17 However, it is found in practice that thieves or
18 burglars are able to gain forced entry through an
19 opening member by chiselling or otherwise breaking the
20 locking means and thus opening the respective door or
21 window. It is also possible to quickly cut round a lock
22 such that the locking means is detached from the
23 opening member.

24

1 In the past, in order to overcome this problem, it has
2 been common to use a multiple number of locks such that
3 each lock must be broken or cut around in order to gain
4 access. Yet, for each lock or each locking means
5 provided in an opening member there is required a
6 separate hole for location of the locking bar. The
7 plurality of holes or apertures weakens the door or
8 window and reduces the force required to "kick in" the
9 opening member by tearing of the timber or surrounding
10 material away from the locking bars.

11
12 According to the present invention a security device
13 comprises a first plate adapted to be attached, and
14 provide reinforcement, to an opening member in the
15 proximity of a locking means, wherein said first plate
16 is in the form of a C-channel having front, orthogonal
17 and rear sides, said first plate being adapted to
18 partially surround a front, end, and rear side of said
19 opening member.

20
21 Optionally, said first plate also includes a horizontal
22 side spanning the respective upper or lower edges of
23 the front and rear sides, wherein said horizontal side
24 is adapted to partially surround a respective upper or
25 lower horizontal side of said opening member.

26
27 The first plate may include at least one aperture
28 suitably located in the orthogonal or horizontal side
29 and sized for surrounding a locking bar or bolt;
30 alternatively the first plate may incorporate one or
31 more locking means.

32
33 Preferably, said first plate includes a plurality of
34 apertures for the location of fastening members, such

1 as screws, for fastening said first plate to said
2 opening member.

3
4 Preferably, said first plate includes further apertures
5 to prevent interference with handles, protruding
6 locking mechanisms and so on.

7
8 Preferably, said security device also includes a second
9 plate adapted for attachment and reinforcement to a
10 frame or jam surrounding the opening member.

11
12 Preferably, the second plate also includes an aperture
13 suitably sized and located for receiving a locking bar
14 or bolt.

15
16 The second plate may be in the form of a C-channel
17 having front, orthogonal and rear sides, said second
18 plate being adapted to partially surround a front, end
19 and rear side of a frame or jam surrounding the opening
20 member; alternatively the second member may be a flat
21 plate for attachment to the end of a frame or jam.

22
23 Preferably, the security means also includes a first
24 chain bar attachable to the opening member and
25 partially overlapped by said first plate.

26
27 Preferably, the invention also includes a second chain
28 bar which is attachable to the jam or surround of the
29 opening member.

30
31 Preferably, said second chain bar is partially
32 overlapped by said second plate.

33
34 Preferably, a chain or other detachable securing means

1 is attachable between said first and second chain bars.

2
3 Preferably, said second chain bar is provided with a
4 resting means for resting said chain thereon when chain
5 is detached from said first chain bar.

6
7 Alternatively, one or both of the chain bars are welded
8 to the respective first and second plates.

9
10 Preferably, the plates are made from a metal material.

11
12 Embodiments of the invention will now be described by
13 way of example only with reference to the accompanying
14 drawings, in which:

15 Fig 1 is a pictorial view of a first plate in
16 accordance with the invention, without an
17 incorporated locking means;

18 Fig 2 is an end view of a plate shown in Fig 1;

19 Fig 3 is a pictorial view of a second plate in
20 accordance with the invention;

21 Fig 4 is a front view of a security device in
22 accordance with the invention positioned on a door;

23 Fig 5 is a pictorial view of a further security
24 device in accordance with the present invention
25 with a chain attachment;

26 Fig 6 is a pictorial view of a yet further security
27 device in accordance with the present invention
28 with a chain attachment;

29 Fig 7 is a flat second plate member with a chain
30 attachment and overlapping door-stop member in
31 accordance with the present invention;

32 Figs 8a and 8b are end views of first plate members
33 with various lock, handle and chain attachment
34 arrangements in accordance with the invention; and

1 Fig 9 is a chain bar used in an embodiment of the
2 invention.

3
4 A security device for strengthening and reinforcing
5 doors and windows and the like, together with their
6 surrounding frames, in proximity to their locking
7 mechanisms includes a first plate 2. Embodiments of
8 the first plate are shown in Figs 1, 6, 8a and 8b. In
9 these embodiments the plate is substantially formed in
10 the shape of a C-channel having a front side 3, and a
11 rear side 4 opposing the front side 3 together with a
12 third orthogonal side 5 separating the front 3 and rear
13 4 sides. The embodiment shown in Figure 6 further
14 includes a horizontal side 50, spanning the upper edges
15 of the front 3 and rear sides 4.

16
17 The first plate 2 is sized such that it is adapted to
18 fit snugly over the end of a door or window. Thus, the
19 internal distance between the front 3 and rear 4 sides
20 the plate 2 approximate the width of the door or window
21 at the location required for reinforcement.

22
23 The front and rear sides of the plate 2 may be of any
24 suitable height and width in order to reinforce and
25 strengthen the door or window in the proximity of as
26 many locking mechanisms as required. It is appreciated
27 in the invention that the larger the size of the front
28 and rear sides of the plate, the greater the area of
29 the door or window over which any external stresses
30 imposed on the lock, door, window or plate may be
31 absorbed. Furthermore, the front and rear sides of the
32 first or second plate need not be rectangular, and
33 there is no limit to the shape which may be employed
34 for functional and aesthetic reasons.

1
2 Additionally, the front and rear sides of the plate 2
3 include small apertures 6 for screwing or otherwise
4 attaching said plate 2 to the door or window. Again,
5 the greater the number of such fastening means, the
6 less stress required to be absorbed by each and
7 therefore, the less risk of the door or window being
8 ripped away from a lock or locks.

9
10 In the embodiments, the front and rear sides of the
11 plate also include apertures 7 through which keys may
12 be inserted for unlocking or locking any locking
13 mechanism located in the door or window. Further
14 apertures 20 may be provided for handles 30 or the
15 like. Yet further apertures 8 are provided in respect
16 of each locking bar and these apertures are located in
17 the orthogonal side of the plate. The plate may
18 alternatively include an incorporated locking means
19 which is placed in a recessed area of the door or
20 window (not shown).

21
22 Turning now to Fig 3, a second plate 10 is provided and
23 has a profile in accordance with a frame of jam or the
24 like surrounding an opening member such as a door or
25 window. Similar to the first plate, the second plate
26 10 includes a front side 11 and a rear side 12.
27 Further orthogonal sides 13, 14 are provided in order
28 to correspond to the profile of the frame or door jam.
29 An alternative embodiment of the second plate is shown
30 in Fig 7. This second plate is a flat plate which is
31 placed on the internal orthogonal side of a frame or
32 jam. The orthogonal sides are provided with apertures
33 15, which correspond in size and location to apertures
34 8 included in the first plate and location and size of

1 locking bars comprised in any locking mechanisms
2 included in the opening member.

3
4 Thus, each locking bar when in a locking position, such
5 as shown in Fig 4, is reinforced by the orthogonal side
6 5 on the first plate 2 and an orthogonal side 13 or 14
7 on the second plate 10. The reinforcement provided by
8 the combination of the orthogonal plates ensures that a
9 locking bar 21 may not be easily ripped through an
10 opening member or its surrounding frame.

11
12 Fig 5 shows the security device in situ with a chain 31
13 attached to the first and second plates to enable the
14 door or window to be opened slightly to see (in the
15 case of a door) or talk to a person on the other side
16 of the door or window without loss of security.

17
18 The chain 31 is attached to chain bars 32 shown in
19 Figs 5, 8a and 8b and 9, these chain bars are welded to
20 the first and second plates. In an alternative
21 embodiment they may be recessed into the frame or
22 opening member and then overlapped by the first and
23 second plates.

24
25 Fig 7 shows an alternative form of attachment member 33
26 used with a flat second plate member. This attachment
27 member is in the form of a bar situated between the
28 second plate member and the door or window portion
29 projecting with an aperture 34 to which the chain 31
30 may be attached. Fig 7 also shows a door stop member
31 35, preferably of wood overlapping the second plate
32 member to provide additional strength and to reduce
33 noise when closing the door.

34

1 In an alternative embodiment a first plate may comprise
2 front, orthogonal and rear sides adapted to be snugly
3 located over an opening member which does not, as yet,
4 include a locking mechanism. Accordingly, a locking
5 mechanism, such as a bolt, may be attached to the
6 exterior of the first plate, suitable locating or
7 holding means for the bolt or the like being attached
8 to the exterior of a second plate on the frame or
9 surrounding of the opening member.

10
11 The invention may also include ornate coverings to hide
12 or camouflage bolt heads and the like. These can be
13 incorporated into the design of a shield or badge, but
14 are of course not limited to any particular design in
15 the invention.

16
17 It may be seen that the invention may be easily
18 manufactured and adapted to suit any locking mechanism
19 and any opening member with surrounding frame. This
20 includes the application where the door may have an
21 internal locking system as illustrated in Figure 6. In
22 such doors, the locking bolt or mechanism may extend
23 into the frame or jam vertically from the top of the
24 opening member, or alternatively into the floor from
25 the bottom of the opening member. In order to provide
26 protection for such arrangements the first plate
27 includes a horizontal edge 50 which has an aperture for
28 receiving the locking bolt therethrough. Thus for a
29 wide variety of locking systems and at a relatively low
30 cost a significant improvement may be made to the
31 security of a house or building or the like.

32
33 The invention may be made of any suitable material
34 having required strength properties, such, for example,

1 as steel, aluminium, various alloys thereof and even
2 certain tough plastics.

3
4 It is also realised in the invention that should it not
5 be aesthetically or otherwise desirable to include a
6 front or rear side on either of the first or second
7 plates, then such sides may be omitted. While this may
8 result in some detraction of the strength of the
9 security device, the general purpose and spirit of the
10 device is still possible.
11

1
2 CLAIMS

3
4 1. A security device comprising a first plate adapted
5 to be attached, and provide reinforcement, to an
6 opening member in the proximity of a locking means,
7 wherein said first plate is in the form of a C-channel
8 having front, orthogonal and rear sides, said first
9 plate being adapted to partially surround a front, end,
10 and rear side of said opening member.

11
12 2. A security device as claimed in Claim 1 wherein
13 said first plate also includes a horizontal side
14 spanning the respective upper or lower edges of the
15 front and rear sides, and wherein said horizontal side
16 is adapted to partially surround a respective upper or
17 lower horizontal side of said opening member.

18
19 3. A security device as claimed in Claim 1 or Claim 2,
20 wherein the first plate includes at least one aperture
21 suitably located in the orthogonal or horizontal side
22 and sized for surrounding a locking bar or bolt.

23
24 4. A security device as claimed in Claim 1 or Claim
25 2, wherein the first plate incorporates one or more
26 locking means.

27
28 5. A security device as claimed in any one of the
29 preceding claims, wherein said first plate includes a
30 plurality of apertures for the location of fastening
31 members, such as screws, for fastening said first plate
32 to said opening member.

33
34 6. A security device as claimed in any one of the

1 preceding claims, wherein said first plate includes
2 further apertures to prevent interference with handles,
3 protruding locking mechanisms and so on.

4
5 7. A security device as claimed in any one of the
6 preceding claims, wherein said security device also
7 includes a second plate adapted for attachment and
8 reinforcement to a frame or jam surrounding the opening
9 member.

10
11 8. A security device as claimed in any one of the
12 preceding claims, wherein the second plate also
13 includes an aperture suitably sized and located for
14 receiving a locking bar or bolt.

15
16 9. A security device as claimed in any one of the
17 preceding claims, wherein the second plate may be in
18 the form of a C-channel having front, orthogonal and
19 rear sides, said second plate being adapted to
20 partially surround a front, end and rear side of a
21 frame or jam surrounding the opening member.

22
23 10. A security device as claimed in any one of the
24 preceding claims, wherein the second member is a flat
25 plate for attachment to the end of a frame or jam.

26
27 11. A security device as claimed in any one of the
28 preceding claims also including a first chain bar
29 attachable to the opening member and partially
30 overlapped by said first plate.

31
32 12. A security device as claimed in any one of the
33 preceding claims also including a second chain bar
34 which is attachable to the jam or surround of the

opening member.

13. A security device as claimed in any one of the preceding Claims, wherein said second chain bar is partially overlapped by said second plate.

14. A security device as claimed in any one of the preceding Claims, wherein a chain or other detachable securing means is attachable between said first and second chain bars.

15. A security device as claimed in Claim 14 wherein said second chain bar is provided with a resting means for resting said chain thereon when chain is detached from said first chain bar.

16. A security device as claimed in any one of the preceding claims wherein one or both of the chain bars are welded to the respective first and second plates.

17. A security device as claimed in any one of the preceding claims, wherein the plates are made from a metal material.

18. A security device substantially as described or illustrated hereinbefore.

- 13 -

Patents Act 1977
Examiner's report to the Comptroller under
Section 17 (The Search Report)

Application number

GB 9307047.2

Relevant Technical fields

(i) UK Cl (Edition L) E2A (APE) ; E1J (JFG)

(ii) Int Cl (Edition 5) E05B 17/00 17/20

Databases (see over)

(i) UK Patent Office

(ii)

Search Examiner

J D WILSON

Date of Search

28 MAY 1993

Documents considered relevant following a search in respect of claims

ALL

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X, E	GB 2258262 A (WARZYK) whole document	1, 3-6 at least
X	GB 2201994 A (McDONALD) whole document	1, 3-8, 10 at least
X	GB 2197677 A (KILHALE LTD) note Figures 13 & 14	1, 3-11 at least
X	US 4139999 (ALLENBAUGH) whole document	1, 3-6 at least
X	US 3936085 (LONG) see especially Figures 1 and 4	1, 3-8, 11 to 14 at least
X	US 3934910 (RADKE) whole document	1, 3-8 at least
X	US 3888530 (FABRICI) whole document	1, 3-9 at least

SF2(p)

SJJ - doc99\fil001229

Category	Identity of document and relevant passages	Relevant to claim(s)

Categories of documents

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